## REMARKS

This reply encompasses a bona fide attempt to overcome the rejections raised by the Examiner and presents amendments as well as reasons why the applicant believes that the claimed invention is novel and unobvious over the closest prior art of record, thereby placing the present application in a condition for allowance.

*Amendments to the Specification*

Page 11 of the Specification is amended herein to correct a minor informality on line 9. No new matter is introduced.

*Claim Status*

Claims 1-30 were pending. Claims 1-30 were rejected. As a bona fide attempt to forward the application to allowance, claims 1-17 and 24-30 are amended herein. No claim is canceled or newly added. No new matter is introduced. By this Amendment, claims 1-30 are pending.

***Regarding 35 USC §103 Rejections***

Claims 1-3, 5-18, and 20-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sullivan *et al.* (U.S. Patent No. 6,651,261, hereinafter referred to as "Sullivan") in view of Nolan *et al.* (U.S. Patent No. 5,253,362, hereinafter referred to as "Nolan"). Claims 4 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sullivan in view of Nolan and Powsner *et al.* (U.S. Patent No. 5,640,549, hereinafter referred to as "Powsner"). It is respectfully submitted that the amendments presented herein render the rejections moot.

Nevertheless, Applicants would like to address the points raised in the Office Action.

> The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (emphasis in original.)

The Examiner **correctly** pointed out that Sullivan does **not** specifically teach "*displaying a data sheet with corresponding data*" but argued that Nolan teaches "a method for annotating data objects wherein a cell in a flowsheet may have a form or report window associated with it which expands on the information in the cell," citing col. 2, lines 50-52 of Nolan.

Applicants note that **neither Sullivan nor Nolan** seems to suggest the alleged combination. As the above-cited case law made clear, a proper *prima facie* case of obviousness **cannot** be established **unless** either Sullivan or Nolan also suggests the desirability of the combination [MPEP 2143.01].

The Examiner further argued that "[s]ince Nolan and Sullivan are both from the same field of endeavor, the purposes disclosed by Nolan would have been recognized in the pertinent art of Sullivan." It is respectfully submitted that the level of skill in the art **cannot** be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). Moreover, recognition **does not** equate motivation or a desirability to modify. On the contrary, a person having ordinary skill in the art at the time of the invention would have recognized that **Sullivan and Nolan are not properly combinable** and/or **would not have been motivated** to modify Sullivan with Nolan.

There are at least two reasons. First, **the alleged combination would have rendered Sullivan unsatisfactory for its intended purpose**.

Sullivan teaches **a method of linking** a spreadsheet program to a database [*see,* Sullivan, Figure 2, col. 6, lines 11-16]. The user of Sullivan interacts primarily with the spreadsheet program [*id.* at lines 13-14]. Sullivan imposes database relationships inside the spreadsheet program **absolutely transparent to the user** – so that the computer user doesn't need to know anything about database structure [*see,* Sullivan, col. 3, lines 1-7].

Nolan teaches a method for storing and retrieving data object annotations in a proprietary, standalone computer system 10 [*see,* Nolan, FIG. 1]. For linking these data object annotations and expanding cell information, Nolan relies on a computer programming paradigm similar to "hypertext" [*id.* col. 2, lines 55-59].

To modify Sullivan with Nolan for the purpose of expanding cell information would have required Sullivan to be completely restructured and reprogrammed to adopt the linking method of Nolan. Even if such an extreme modification of Sullivan could be successful and the modified Sullivan, i.e., the alleged combination, were able to expand cell information just like Nolan, the original linking method of Sullivan would have been eliminated and no longer useful, which would have rendered Sullivan unsatisfactory for its intended purpose. Furthermore, the alleged combination would have also eliminated Sullivan's spreadsheet program, exposing the user to the complex database management issues that Sullivan intends to hide from the user.

If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the

proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). For this reason alone, the claimed invention would not have been obvious over Sullivan in view of Nolan to a person of ordinary skill in the art at the time the invention was made.

The ongoing debate and conflict between different computer programming paradigms and databases is the second reason why a person having ordinary skill in the art at the time of the invention would **not** have been motivated to modify Sullivan with Nolan. An important reason why Sullivan is incompatible with Nolan, aside from their respective underlying computer programming language, is their respective database for which each invention is specifically designed. Sullivan links a spreadsheet program to a traditional **fixed** database composed of multiple *tables* [Sullivan, Summary]. On the other hand, Nolan is a hypertext-like system that does **not** have a fixed database but a database composed of *object instances* [Nolan, col. 4, lines 36-52]. It was/is well known in the art that hypertext systems do not deal with fixed databases but provide users with relatively straightforward ways of creating new nodes (records) and new links to existing records.

Furthermore, Nolan's automated records management system, like Apple®'s Hypercard® software system, is a software system rather than a software package, because it is an environment that must be present to provide support for other programs [*see*, Nolan, FIG. 1]. This is very much unlike Sullivan, which is a software package rather than a software system [*see,* Sullivan, Figure 2].

As the Examiner **correctly** pointed out, Sullivan does not specifically teach several claimed elements. The fundamental, structural, architectural differences between Nolan and Sullivan submitted above support the arguments that Nolan cannot fill the deficiency of Sullivan and that there is no proper motivation to modify Sullivan with Nolan.

*Overview of the Invention*

The present invention provides a new multi-dimensional database management system particularly useful in a clinical trial database system. It comprises a graphical user interface and is accessible over a network such as the Internet. The present invention provides the user with popular data manipulation mechanisms without requiring a separate spreadsheet program [Sullivan] and with the linking mechanisms without the common drawbacks of a hypertext system [Nolan]. An additional advantage of the present invention is how status of entered data is analyzed and displayed.

According to an embodiment of the present invention, the user interface has one or more frames or display areas, one of which displays a plurality of tabular forms. Each tabular form contains a plurality of cells. A key of the invention is how these tabular forms and cells are associated/correlated/linked. One or more of the plurality of cells are associable with one or more corresponding tabular forms. Each of these corresponding tabular forms also contains one or more cells that are also associable with yet another level of one or more corresponding tabular forms, and so on. This complex relationship creates a cascading mechanism that enables a user to capture and manage data in tabular forms at different levels [Fig. 1, Spec. page 8, lines 2-19].

The invention also provides the user with at least two different means to select a cell of interest, for example, a roll-over, a single click, or a double-click. Upon selection, the cell is activated and a corresponding tabular form or a corresponding data sheet is displayed.

Each tabular form is described by one or more descriptors. These descriptors enable the user to review status of entered data in one glance over the user interface [Figure 5]. The status review includes verification, validation, statistics, correctness, completeness, evaluation (i.e., checking to see if the entered data/values/numbers are within predefined boundaries). The descriptors include signs, colors, tags, flags, statistical parameters. Each cell is also described by the same or different descriptors.

In the example shown in Figure 5, the color of a cell of interest **520** indicates a certain status of data contained in its corresponding data sheet **530**. Specifically, vital signs **550** of patient **560** includes Dbp (diastolic blood pressure) of 56 mmHg. In this case, because the entered Dbp value (56 mmHg) meets or exceeds the predefined boundaries (e.g., 80-56 mmHg), the Dbp value is flagged (i.e., displayed in a different color represented by a darker shade in Fig. 5) in the corresponding data sheet **530** and the color of the cell of interest **520** changes correspondingly. While the underlying operation is transparent to the user, the result thereof (i.e., status of entered data) is easy for the user to review because of the various descriptors [page 9, lines 6-23, page 12, lines 3-7, page 13, lines 11-17].

Neither Sullivan nor Nolan teach or suggest a plurality of descriptors (e.g., signs, tags, statistical parameters, colors, etc.) as taught and claimed in the present application. Nolan

teaches notation signs that **do not describe cell information *contents*** but simply indicates an **existence** of an annotation that is associated with a certain data object instance [*see,* Nolan, col. 5, lines 36-50].

The alleged combination of Sullivan/Nolan/Powsner would have suffered the same deficiencies discussed above with respect to the alleged combination of Sullivan and Nolan. Powsner was specifically cited for its teaching in displaying a plurality of plot points in different respective colors **for the purpose of graphically differentiating cell plot points**. In other words, Powsner's teaching with respect to colors is **irrelevant** to the status of entered data. Therefore, the alleged combination of Sullivan/Nolan/Powsner would **not** have accomplished the descriptors of the present invention, notwithstanding the questionable desirability, motivation and ability of a person of ordinary skill in the art at the time of the invention to modify Sullivan with Nolan and Powsner.

*Conclusion*

It is respectfully submitted that, lacking the particulars taught and claimed in the present application, one of ordinary skilled in the art at the time of the invention, upon reviewing and learning Sullivan, Nolan, and Powsner, would not have had the desire, motivation, and/or knowledge to modify Sullivan with Nolan and/or Powsner and somehow arrive at the invention as set forth in claims 1-30. Accordingly, claims 1-30 are submitted to be patentable over the prior art of record, individually and in combination.

This Reply is submitted to be complete and proper in that it places the present application in a condition for allowance without introducing new matters. Since the Examiner has done a

thorough search in the first Office Action in light of the entire application disclosure and claims, no new search should be necessary. Favorable consideration and a Notice of Allowance of all pending claims are therefore earnestly solicited.

The Examiner is sincerely invited to telephone the undersigned for discussing an Examiner's Amendment or any suggested actions for accelerating prosecution and moving the present application to allowance.

Respectfully submitted,

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## AMENDMENTS TO THE DRAWINGS

*Explanation of the Changes*

The reference number "205" shown in the original Figure 2 should have been "250", referring to the manager **250** discussed in the Specification on page 9, line 25, and page 10, line 4. A replacement Figure 2 is attached herewith to correct the inadvertent error. No new matter is introduced.